

Critical Thinking Questions – Material Recovery Facilities Solutions

1. A Solid Waste Management Facility Where Solid Waste Materials Are Received, Separated, and Processed To Meet Market Requirements

2.

Typically The Incoming Materials Are Source Separated Recyclables – Mixed Waste Facilities Would Be An Exception

Most Newly Constructed Facilities Include a Building To Enclose The Equipment And Operations – C&D Facilities And Yard Waste Facilities Could Be The Exception

Citizen Drop-Off Center – Basic material separations, convenient for citizen use, typically located with transfer station. MSW, recyclables, yard waste, household hazardous waste, E-waste.

Dual Stream Recyclables – two process lines/sorting systems, fiber and container collected separately, recovered recyclables processed to meet market requirements.

Single Stream Recyclables – all recyclables are commingled when collected, recyclables separated by material properties and dimensions (many operations needed to separate different recyclables), single grouped collection → lower cost

“Dry” Waste – typically commercial waste (primarily paper), plastics are a challenge, less equipment and more streamlined, organics handled separately, good quality paper commodities.

Mixed Waste (Municipal Solid Waste) – commercial, institutional, and residential waste, primarily developed to recover materials and produce a waste derived fuel.

Construction and Demolition Debris – highly variable waste (foundation construction to interior finish work), clean wood recovered from C&D operation can be fed into land clearing process equipment

Others – Multi-Material, Green Waste, modify transfer station facilities.

3. Queueing prior to scale
Scale/Scale House
Paved Maneuvering Areas
Storm water Control
Exterior
Tipping Floor
Processing Area
Bale Storage
Loading Dock
Employee Facilities

Employee Safety
Infeed Conveyor
QC station and screen
Trommel screen
Sort conveyor
Magnetic Separator
Eddy current separator
Optical sorter
Material bunkers, bale feed conveyors
Balers

4. Your first week on the job as an engineering consultant, you have been asked to perform some design calculations for a new MRF being built in your city. You are asked to come up with the following information for your client, the city public works department. Present your findings in a short design report.
- a) Answers will vary.
 - b) Answers will vary.
 - c) Answers will vary.
 - d) Answers will vary.
 - e) Answers will vary.